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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,142	07/25/2001	Eugene B. Hogenauer	QST-013US/2097P	8210

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EXAMINER

PAN, DANIEL H

ART UNIT

PAPER NUMBER

2183

DATE MAILED: 05/13/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/916,142

Applicant(s)

HOGENAUER, EUGENE B.

Examiner

Daniel Pan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07/25/01, 09/16/02.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-17 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 02 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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1. Claims 1-17 are presented for examination.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-17 are rejected under 35 U.S.C. 102(a) as being anticipated by Ebicioglu et al. (5,721,854).

3. As to claim 1, Ebicioglu taught an encoded VLIW system including at least :

a) determination of which stages [execution path] that an instruction needs, or should be to be executed (see the prediction of possible execution paths in col.4, lines 33-67, col.5, lines 1-15);

b) using an enabling signal of the instruction to direct execution by enabling an storage operation (see the condition code BC1 in figs, 2 and 4 for branch to a target action, see also the encoded enable bit mask for the branch or path to be executed in col.10, lines 5-42, see also col.4, lines 33-67 for background).

4. As to claim 2, no specific structure of the computational units (or the controllers see claim 17) is being recited in the claim. Therefore, it is interpreted as either computational processes or physical devices. Ebicioglu was also directed to

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computation units (e.g. see the fixed and floating point instructions in col.3, lines 17-21).

Ebicioglu did not explicitly show the physical computational units. However, Ebicioglu already taught the fixed and floating point instructions, and in the same patent, clearly taught executions of multiple processing units in the background (e.g. see col.1, lines 10-15, lines 16-36) . Therefore, multiple computational units should be applicable in Ebicioglu. Applicant is welcome to provide feedback in the next response.

5. As to claim 3, Ebicioglu also included action signal (see the branch action in [Bop1] in fig.4).

6. As to claims 4, 15, Ebicioglu also had bits encoded into the instruction code as enabling signal (e.g. see fig.2, see also the encoded enabling mask into the instruction in col.10, lines 5-42).

7. AS to claims 5, 16, Ebicioglu also encoded a remaining bit as action signal (see the second branch action [Bop2] in fig.2).

8. As to claim 6, Ebicioglu also did not use NOP (see fig.2).

9. AS to claims 7,8, Ebicioglu also encoded each instruction code of the VLIW as enable signal (see the condition codes and the enabling mask bit in col.10, lines 5-42) and action signal (see the branch codes in col.10, lines 5-24, see also the Bopn in fig.2 for the encoded instruction format).;

b) associated each instruction code with a computational units (see the target fixed point and floating point instructions).

10. As to claim 9, Ebicioglu's enabling code (see the condition code Bc1 in fig.4) was also used for each stage [branch path] depending on the result of the condition.

11. As to claim 10, Ebicioglu was also applicable I loop proccessing because it taught a subroutine call and return instructions (see col.8, lines 54-60).

12. AS to claim 11, see col.2, lines 3-5 data Flow for background teaching, see also the flow diagram in fig.4.

13. As to claim 12, Ebicioglu also included parallel processing (e.g. see col.1, lines 45-47).

14. As to claim 13, see paragraph # 3,4 .

15. As to claim 14, Ebicioglu also utilized action signal (e.g. see the branch Bop1 in fig.2).

16. As to claim 17, see explanations set forth in Paragraph # 4.

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Sachs et al. (5,560,028) is cited for the background teaching of the parallel execution of the VLIW execution (e.g. see col.6, lines 38-64).

b) Moreno (5,951,674) is cited for the teaching of the encoded form of the VLIW (e.g. see figs.11,12).

c) Barry et al. (6,356,994) is cited for the basic teaching of specific encoding format of the VLIW (e.g. see fig.4c).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Pan whose telephone number is 703 305 9696. The examiner can normally be reached on M-F from 8:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chan, can be reached on 703 305 9712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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